

USSN: 09/879,448
Atty. Docket No.: 2001B056
Amdt. dated September 22, 2003
Reply to Office Action of May 21, 2003

REMARKS

Claims 1-7, 10, 11, 16-18, 20, 24-31, 34-40, 42-51, 56 and 58 have been amended; Claims 60-68 have been canceled; and Claims 69-77 have been added. (Claims 54 and 55 have previously been cancelled.) Accordingly, Claims 1-53, 56-59 and 69-77 are pending.

The Examiner has stated that Claims 22, 26, 53, 57 and 59 would be allowable if rewritten in independent form. (See Office Action page 10, 2nd full paragraph.)

Examiner's Suggestions

Pursuant to the Examiner's suggestion, Claim 11 has been amended to more clearly define the term "blend." (See Office Action page 2, 2nd paragraph.)

Rejections under Peiffer et al. (EP Patent 06656101A1)

Claims 1-10, 12-18, 20, 21, 23-25, 29-45, 48-52, 56, 58 and 60-68 are rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative under 35 U.S.C. 103(a) as being obvious over, Peiffer et al. (EP Patent 06656101A1). Of these rejected claims, claims 1, 31, 34, 38, 42, 52 and 60 are independent. Claims 1, 31, 34, 38 and 42 have been amended. Claim 52 has been distinguished. Claim 60 has been cancelled.

All the films disclosed by Peiffer et al. have polypropylene base layers, i.e., polypropylene core layers. Claims 1, 34, 38 and 42 of the present application have been amended to exclude polypropylene core layers. Accordingly, these claims are not anticipated by Peiffer et al. Also, since Peiffer et al. does not disclose all the limitations in Claims 1, 31, 34, 38 and 42, these claims are not obvious over Peiffer et al.

Claim 31 has been amended to define the viscosity of the silicone additive as being from about 10,000,000 to 50,000,000 centistokes. The Examiner states that recitation of this subject matter would render a claim allowable. (See Office Action page 10, 2nd full paragraph.) Accordingly, Claim 31 is allowable.

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Claim 52 of the present application recites thermoplastic films wherein the **silicone additive** in the first transition layer has a viscosity **greater than** about 1,000,000 centistokes. In contrast, Peiffer et al. states that the viscosity of suitable silicone oils for use in their films lies in the range of 5000-1,000,000 mm²/sec, preferably in the range of 10,000-100,000 mm²/sec. Accordingly, Peiffer et al. does not anticipate Claim 52.

The subject matter of Claim 52 is also not rendered obvious over Peiffer et al. Peiffer et al. states that the preferred viscosity of the silicone used in their films is from 5,000-100,000 mm²/sec. Thus, the upper bound of their preferred range is one tenth of 1,000,000 mm²/sec. (See page 10, 5th paragraph, of Peiffer et al.) Accordingly, Peiffer et al. teaches away from the advantages of using silicone having a viscosity of *over* 1,000,000 mm²/sec.

Also, as stated by Mr. Migliorini in the accompanying 1.132 Declaration, at the time the Peiffer et al. application was filed, silicone oils having a viscosity of 1,000,000 mm²/sec were not available. In particular, polymerization techniques were not available by which to produce silicone oils at such high viscosities. At that time, the greatest viscosity of available silicone oils was not greater than about 350,000 mm²/sec. Accordingly, a skilled artisan reading Peiffer et al. would not have believed that the silicone oils used in the Peiffer et al. films had a viscosity greater than about 350,000 mm²/sec. Since a skilled artisan would not have taken the disclosure in Peiffer et al. of silicone oils with viscosities near 1,000,000 mm²/sec seriously, the reference would not have provided a teaching to use such silicone. Thus, since the cited prior art reference would not have taught all the claim limitations of Claim 52, Claim 52 is not rendered obvious over Peiffer et al.

Moreover, as stated by Mr. Migliorini in the accompanying 1.132 Declaration, it would not have been predictable, at the time of the present invention, that films comprising silicone additives with viscosities of greater than 1,000,000 mm²/sec would have provided good results. That is, a key feature of the present invention is that after processing, the silicone additives from the tie layer migrate to the surface of the skin layer. The rate of migration of the silicone

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additives with viscosities of over 1,000,000 mm²/sec would have been thought to be too slow, or virtually nonexistent, to allow for effective migration of the silicone to the skin layer.

Furthermore, according to Mr. Migliorini, a skilled artisan would not have predicted that a highly viscous silicone additive (greater than 1,000,000 mm²/sec) would have provided superior results vis-à-vis low viscosity silicone oil. At the time of the present invention, it was generally recognized in the art that an additive for imparting improved slip properties to polyolefin films migrates more effectively through the amorphous regions of the polymer matrix to the polymer surface at lower viscosity levels of the additive. Applicants have unexpectedly discovered that contrary to this general belief, silicone additives with viscosities of greater than 1,000,000 mm²/sec are preferred.

Accordingly, since Peiffer et al. does not disclose silicone with viscosities of over 1,000,000 mm²/sec, and since the migration of highly viscous silicone in a film is unpredictable, the present invention is not rendered obvious over the cited prior art reference.

Rejections under 35 USC § 103

Claims 11, 19, 27, 28, 46 and 47 are rejected under 35 U.S.C. § 103 as being obvious over Peiffer et al.; Peiffer et al. in view of Touhsaent (U.S. Patent 6,013,353); or Peiffer et al. in view of Bader et al. (U.S. Patent 5,972,496). (Office Action page 7, last paragraph, to page 10, first paragraph.) These rejected claims are dependent claims. Applicants have overcome the obviousness rejections in view of Peiffer et al. for the independent claims. Accordingly, these obviousness rejections are rendered moot.

New Claims

The Examiner has stated that claims 22, 26, 53, 57 and 59 are allowable if rewritten in independent form. (See Office Action page 10, 2nd full paragraph.) These claims define silicone viscosity as between 10,000,000 to 50,000,000 centistokes.

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Claim 71 is Claim 26 rewritten in independent form. The dependence of Claims 2-20 and 24-30 has been changed from Claim 1 to Claim 71. Claim 72 is Claim 57 rewritten in independent form. The dependence of Claims 35-37 has been changed from Claim 34 to Claim 72.

Claim 73 is the five layer film of Claim 38, but wherein the skin layers can further be HDPE, MDPE, LLDPE, and PP homopolymer; and also wherein the silicone viscosity is defined as between 10,000,000 to 50,000,000 centistokes. The dependence of Claims 39-41 has been changed from Claim 38 to Claim 73. New Claim 77 depends on Claim 73 and further defines the viscosity of the silicone in the second tie layer.

Claim 74 is the five layer film of Claim 42, but wherein the first skin layer can further be HDPE, MDPE, LLDPE, and PP homopolymer; and also wherein the silicone viscosity is defined as between 10,000,000 to 50,000,000 centistokes. The dependence of Claims 43-47 has been changed from Claim 42 to Claim 74.

Claims 75 and 76 are Claims 57 and 59, respectively, rewritten in independent form, as suggested by the Examiner.

Claim 69 recites a thermoplastic film which comprises a core layer comprising polypropylene, and a skin layer comprising a polymer selected from the group consisting of EVA, EMA, surlyn ionomer, EVOH copolymer, amorphous polyamide, and mixtures thereof. The films described by Peiffer et al. do not comprise any of the aforementioned polymers in the skin layer.

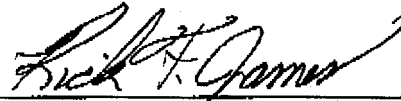
Claim 70 recites a thermoplastic film which comprises a core layer comprising polypropylene, and tie layer comprising a polymer selected from the group consisting of EVA, EMA, surlyn ionomer, EVOH copolymer, amorphous polyamide, and mixtures thereof. The films described by Peiffer et al. do not comprise any of the aforementioned polymers in the intermediate layer.

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In view of the amendment and remarks set forth above, it is respectfully submitted that the present application is in all respects in condition for allowance which action is earnestly requested. If for any reason the application, as amended, is not deemed in condition for allowance, the Examiner is respectfully requested to contact Applicants' attorney at the telephone number indicated below so that additional amendments may be entered as required. If any fees are due, please charge our Deposit Account 05-1712 for such sum.

Respectfully submitted,

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